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1954 -

B CLASS.

File No. 1384/48

P.W **DEPARTMENT**

El. **BRANCH**

Subject:— The Indian Electricity Rules - 1937 Report of Advisory Technical Committee. on the revision of -

B[K] 1949

File No. 1384-/48

Est. Secti. Slip. 21 A

EL. Br.

G R., G D., No. 2408, dated 22-6-22.]

Correspondence

DOCKET SHEET (B)

Subject :—

File No. 1384/48

P.W DEPT.

4 BRANCH.

References :—

*Copies from original file B[m] 1949 are submitted to ~~Thana~~ K region

Date.	To whom sent.	Notes and instructions.

1384/48

566779

El.Br.(I) P.W.D.

The Secy. C.B.B. has forwarded a copy of the report of the Advisory Techl. Committee of the Board on the rivision of the Board on the revision of the I.E. Rules 1937, for inform. comments. The report is to be considered at a meeting of the Board the data & place of which will be communicated later.

2. The report may be refd. u.o. to the El. Engr. & Jt El. comm. for their comments, if any.

Id/-
14/9/49

Id/-
14/9/49

U.O. to El. Engr. & El. commo dt. 15-9-49.

& with report & file no. 1611/36
49152

Below U.O.R No. 1384/48/56779 dated the 15th September 1949, from Government in the Public Works Department.

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No.G.2-a/4744 of 1949.

Bombay, 24th September 1949.

Returned, with compliments, through the Electrical Commissioner with the Government of Bombay.

2. As I was a member of the Advisory Technical Committi Committee appointed for thr revision of the Indian Electricity Rules, 1937, I have no special comments to make on the proposed revision. It is, however, pointed out that this Department was specifically interested in the provisions of the following rules and the necessary proposals in this respect were put forward by me and they were accepted by the Committee:-

(i) Rule 7 - Amount of fees.

(ii) Rule 15 - Advertisement of application and contents thereof.

(iii) Rule 49(5) - Inspection and testing of consumers' installations.

3. The revised rule 7 proposed by the Committee includes in sub-rule (3) thereof a provision for the necessary remedy in case the fees for inspection remain unpaid for one month or more after inspection.

The proposed rule 15 dispenses with the advertisement of the entire draft license and requires instead that only such particulars as may be specified by the Provincial Government be advertised. This will curtail the unnecessarily heavy expenditure on account of advertising.

Rule 49(5) was defective, in as much as the periodical inspection and test of electric installation by a consumer was not mandatory thereunder. The new rule 47(3) removes this glaring defect.

Sd/-

Dy. Electrical Engineer

to Govt.

3 & 3

Rule 67(3).- Thr provisions for the testing of any supply line or apparatus before reconnection after any alteration or repair in the prescribed manner may not be insisted upon in case of minor repairs.

- Rule 67(5).- Where any facility for testing purpose is not available, the Inspector should be satisfied with the makers' test certificates. This acceptance should be obligatory.

Rule 69(1)(i).- The provision for double earthing of the neutral of apparatus like Transformers or generators is not considered necessary, and therefore, should be deleted. It will give rise to complications when the neutral of a 11 kV generator, for instance, is earthed through a resistance.

Rule 70(1)(b).-The height of 8ft. prescribed for the fencing is unduly high for even tall persons in the country. It should be reduced to 7 ft., which is considered quite adequate.

Chapter IX.

Rule 75(1).- The soldering of joints between conductors of overhead lines or providing suitable clamps or metal sleeves for the purpose has been found from the experience of several electric supply companies to be no better than a good binding with binding wire and the use of parallel groove clamps has not been found satisfactory if they are not of the exact size as of the conductors. It is, therefore, suggested that unsoldered joints with proper binding should be acceptable. Besides there is difficulty of securing proper parallel groove clamps in India. Soldering is objected to in modern practice, as it anneals the conductor and reduces its strength.

Rules 76(1).- The factors of safety allowed should be defindd; i.e. whether they are against loads which produce ultimate breaking stress or the ultimate crippling stress in the material of the pole. The lower factor of safety of 1.5 should be specifically stated as applying to one broken wire only.

Below P.W.D. U.O.R. No.1384/48/71725, dated 29th November, 1949.

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Electric Grid Offices.

The proposed revised Indian Electricity Rules, in some cases vary considerably from the actual practice followed in the various works under execution by this Department in regard to clearances etc. Before the revised rules were drafted, the Advisory Technical Committee had called for suggestions from the various Governments. It appears that the concerned papers were not forwarded to this Department for any suggestions or comments. However, in view of this being brought to the notice of this Department at this late stage, it is considered that some of the revised rules as mentioned below, which already prescribe much larger clearances than those allowed by this department in its various works and which have been already approved by the Electrical Inspector, should be reconsidered by the Committee If the proposed rules are accepted, several changes will have to be made in the works already executed or are under execution by this Department, which will involve considerable expenditure, and delays. The clearaness etc. already adopted by this Department, as described in the amendments suggested to the Rules below and which are already approved by the Electrical Inspector, are considered adequate for the concerned areas. It is, therefore, suggested that these amendments to the draft rules may be recommended for adoption by the Central Electricity Board, ,The following amendments are suggested in thr rules in Chapters 8 and 9 of the proposed drafts rules.

Chapter VIII.

Rule 67 (1).- The testing voltage of 1¼ times the normal working voltage should be reduced to 1-1/10 times normal working voltage because it may not be possible to generate 25 per cent higher voltage than the normal working voltage for testing purposes.

Rule 67(3).- The provisions for the testing of any supply line or apparatus before reconnection after any alternation or repair in the prescribed manner may not be insisted upon in case of minor repairs.

Rule 67(5).- Where any facility for testing purpose is not available, the Inspector should be satisfied with the makers' test certificates. This acceptance should be obligatory.

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Rule 76(1).- The factors of safety allowed should be defined, i.e. whether they are against loads which produce ultimate breaking stress or the ultimate crippling stress in the material of the pole. The lower factor of safety of 1.5 should be specifically stated as applying to one broken wire only.

Rule 77(2)(a').- Service lines, if insulated, 16 ft.

Rule 77(5). The words "Except by special means" should be added after the word "inaccessible".

Rule 79(1). The clearance of 1'-3" is considered adequate as against 2' prescribed in the refised rules.

Rule 79(3)(a).- The clearance of 3' is considered adequate as against 4' prescribed in the revised rules.

Rule 79(3)(b).- The clearance of 4' is considered adequate as against 6' provided in the revised rules.

Rule 79(c).- The clearance of 4' is considered adequate as against 6' prescribed in the revised rules.

Rule 81(a).- The clearance of 9" is considered adequate against 1' prescribed in the revised rules.

Rule 81(b).- The clearance of 1'-3" is considered adequate as against 1'-6" prescribed in the revised rules.

Rule 81(c).- The clearance of 2' is considered adequate as against 3' prescribed in the revised rules.

Rule 83(1)(a)(i).- The classification of 83(a) should be flat roof and open balcony and of 83(b) pitched roof, lean to roof or varandah roof. The word 'and' should be substituted by the word 'or'.

Rule 83(1)(a)(ii).- The clearance of 3' is considered adequate as against 4' shown in the revised rules.

Rule 83(1)(b)(i). The word 'or' should be substituted for the word 'and' and the clearance should be 6' instead of 8'.

Rule 83 (1) (c).- The clearance of 3' is considered adequate as against 4' prescribed in the revised rules.

Rule 84.- The words "or adjacent to" should be deleted from the first para. and second para. marked 84(2) The clearance of 12' shown in the revised rules should be reduced to 8' for H.T. lines and retained at 12' for extra H.T.lines.

Rule 84(1)(a).- The clearance of 6' for H.T. voltage line should be reduced to 4'.

Rule 84(1)(b).- For pole lines upto 33 kV - 6 ft.

Rule 88(3).- After the word 'Creosoted', add "Ascu treated".

Rule 90(4).- The angle of 10° should be changed to 20°.

Rule 94(6).- After "20 yards" add""as far as possible".

Rule 97(8).- It is not considered necessary to provide separate earthing for insulator hardware and cross arms on metal supports as, by their proper fixing on the metal supports, they are authmatically earth connected.

Rule 97(3).- This provision should be made applicable to the inhabited areas only. B

Id/-
16-12-49.

Secy. to Govt.,
P.W.D., Bombay.

U.O.R. No. PLS(1)/21296
Bombay 1: 16th Decr. 1949.

Encl:-(1) P.W.D. file No. 1384/48.
(2) P.W.D. file No. 1611/36.
(3) Report of A,T,C, of IE Rules 1937.

1384/ 48/85814

El.Br.(I) P.W.D.

The Secy., Central Ely. Board, has forwarded a copy of the report of the Advisory Technical Committee of the Board on the revision of the I.E.Rules, 1937, for information and comments. The El. Engr., (vide, G.L.No.1611/36-El., dt. the 26-8-48) has no remarks to offer as certain suggestions made by him have already been accepted by the Committee--vide. El., Engr's note, dt. the 24-8-49 on p. ante. The El. Commr. however considers that if the proposed rules are accepted, several changes re:clearances etc. will have to be made in the works already executed or under execution under the Grid System, which will involve considerable expenditure and delays. He therefore suggest certain amendments (vide, his note on pp. ante) and requests that they may be recommended for adoption by the Central Ely. Board. The El. Commr's proposals may if appd., be accepted and the C.E.B. may be addressed as per draft put up for approval.

It is however for orders whether the draft may be shown u.o. to t

the El. Engr. (before issue) for remarks if any, which will of course delay the mattern as Govt. of India wanted informn. by the 15-12-49.

2. It is stated that central Ely. Board's letter on p. of corrospes. section is addressed to all members of the central Ely. Board and hence necy. reply will have to be issued over the signature of the Chief Engr. who has been nominated, by name, as a member of the C.W.B.- vide, G.L.No. 1065/36-III dated the 2-1-1948. The question whether the Chief Engr. should continue as the Boards member or the Secy. should be nominated in his place may, if appd., be taken up on the ~~xxxx~~ relevant papers (viz. file 1065/36-III) after issue of the proposed draft..

3. Orders are solicited on 'A' above.

Id/-
17-12-49.

It does not appear necessary to refer this to the Elec. Engr. for remarks,

Id/-
9/12

The Elec. Engr should see these pp. for urgent remarks on the amendment suggested by his Elec Commr. His remarks should reach us by (on or before) 22nd inst.

Id/-
19/12.

Immediate.

U.O. to El.Engr. to Govt. dt. 21-12-49.

with file no. 1065/36 III & 1611/36/49152 and report.

Below U.O.R. NO. 1384/48 dated the 21st December 1949, from Government in the Public Works Department.

No.G.29/7768 of 1949.

Bombay, 27th December 1949.

Returned, with compliments, with U.O.R. dated the 23rd December 1949.

2. The question of liberalising the rules still further in certain cases, particularly in the rural electrification schemes started by the Provincial and Central Governments was fully considered by the Advisory Technical Committee, which came to the conclusion that it was not advisable to liberalise the rules generally, in view of the fact that a large number of private licensees was running supply undertakings in the Province. it has been found in practice that such licensees always take the maximum advantage of all the concessions provided, without engaging adequate staff and appliances necessary for satisfactory maintenance of lines, etc. In such cases, facilities for reduced clearances are bound to have an adverse effect in practice and are likely to lead to serious accidents. The Committee, therefore, has provided ample powers for relaxation by Government and the Inspector under rules 138 and 139 in Chapter XII, and these rules are quite sufficient to deal with special cases.

3. As regards the Grid Department, I have already approved the methods of construction adopted by that Department and no changes will have to be made in the works already executed or under execution by that Department.

4. In view of the above remarks, I do not consider that any modifications are necessary in the revised rules of the Indian Electricity Rules proposed by the Advisory Technical Committee.

Sd/-

Electrical Engineer to Govt.

~~1384/48~~

1384/48/88161

El.Br.(I) P.W.D.

Submitted with refes. to the O.N. dated the 17-12-49 and the Secy's orders thereon.

2. For the reasons given in his note within the El. Engr. does not consider any modifications (as suggested by the El. Commr.) necy. in the revised rules proposed by the Advisory Technical committee. A revised draft in lieu of the one on pp. 7-8 of correspce. Section has now been put up, which may issue if appd.

Id/-
27/12/49.

The amendments suggested by the Elec. Commr. are from the point of view of grade scheme, and as pointed but by the Elec. Engr. provision has been made to relax the rules in favour of schemes like the Grid, & agrd that it would not be advisable to lower the standards in the rules in view of the Govt that a majority of the electric licensees are worth small concerns who are likely to take an undue advantage of general relaxations.

Id/-
28/12

BY REGISTERED POST.

GOVERNMENT OF INDIA
MINISTRY OF WORKS, MINES AND POWER,
CENTRAL ELECTRICITY BOARD.

No. EL.II/203(9). Dated New Delhi, the 23rd. August 1949.

From.

Shri N.P.Dube, M.A.(Cantab),

Secretary, Central Electricity Board.

To

All Members of the Central Electricity Board,

(Exeept Ajmer/Merwara).

Subject:- Consideration of the Report of the Advisory Technical Committee on the revision of the India Electricity Rules, 1937.

Sir,

I am directed to invite your attention to Board's letter No.EL-II/203(4), dated the 22nd June 1948 forwarding a copy of the record of the sixth meeting of the Central Electricity Board held in Simla on 3rd to 5th June 1948 and to say that in pursuance of the resolution passed by the Board in paragraph 5 of the record, the Advisory Technical Committee appointed to revise the Indian Electricity Rules 1937, has submitted its report on the revision of the Indian Electricity Rules, 1937, A copy of the report is enclosed for your information and comments. The report will be considered at a meeting of the Central Electricity Board. The date and place of the meeting will be communicated later.

Yours faithfully,

Sd/-
(N.P.Dube)

Secretary, Central Electricity Board.

Copy, with enclosure, forwarded to the Technical Advisers to the Members of the Central Electricity Board who attended the sixth meeting of the Board.

Sd/-
(N.P.Dube)
Secretary, Central Electricity Board.

No.1384/48/El.(I).

Public Works Department
Bombay Castle(Bombay No.1),
28th December 1949.

From

N.P.Gurjar, Esquire, B.E., I.S.E.,-
Chief Engineer to Government,
Public Works Department.

To

The Secretary,
Central Electricity Board,
Ministry of Works, Mines and Power,
Government of India, New Delhi.

Subject:- Consideration of the Report of the Advisory Technical Committee on the revision of the Indian Electricity Rules, 1937.

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Sir,

With reference to your letter No.El/II /203(4), dated the 23rd August 1949, and subsequent reminders, dated the 29th October 1949 and the 3rd December 1949, on the above subject, I am directed to state that this Government has no comments on the revised Indian Electricity Rules, proposed by the Advisory Technical Committee, and the Report of the Committee.

Yours faithfully,

Sd/-
Chief Engineer to Government,
Public Works Department.

D.A,/Nil.

Copy forwarded for information to :-

the Electrical Engineer to Government with reference to his No.G.2a/7768, dated the 27th December 1949;

the Electrical Commissioner with the Government of India dated the 16th December 1949.

2. The Electrical Commissioner is informed that provision has been made for relaxation by Government and the Inspector under rules 138 and 139 in Chapter XII of the proposed revised rules, which are quite sufficient to deal with

special cases. Accordingly, no changes will have to be made in the works already executed or under execution under the Bombay Electric Grid System.

Issued.
3/1/50

30/8/51